

Surprise Realistic Mock Disasters

The Most Effective Means of Disaster Training

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■ *Realism introduced in several large scale surprise mock-disaster tests proved to be a real challenge to a disaster-conscious hospital staff that had previously undergone fairly extensive disaster training and testing, utilizing conventional methods.*

Serious weaknesses, flaws, omissions and deficiencies in disaster capability were dramatically and conclusively revealed by use of what appeared to be a "live" disaster setting with smoke, fire, explosions; adverse weather and light conditions; realistically-simulated "casualties" especially prepared not only to look but to act the part; selected harassment incidents from well-documented disasters, such as utility failures, automobile accident on the main access route, overload of telephone switchboard, and invasion of hospital and disaster site by distraught relatives and the morbidly curious.

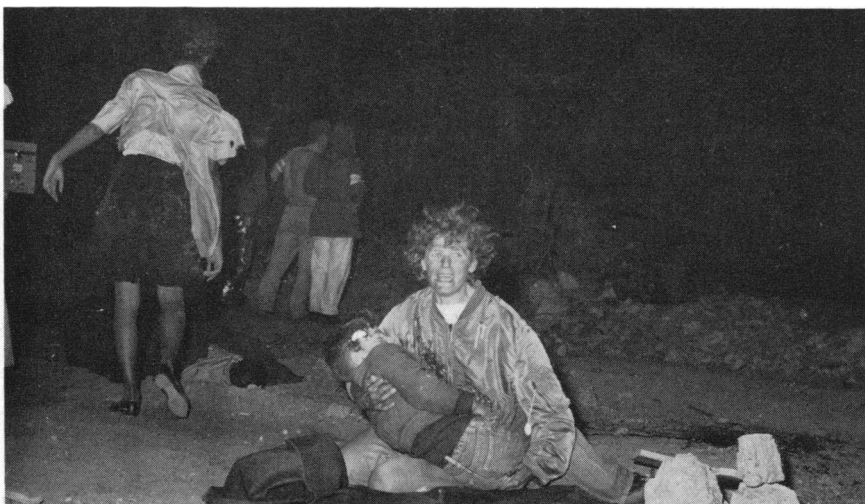
DESPITE MAN'S greatest breakthroughs in the scientific knowledge, he still remains helpless before the titanic quirks of nature—earthquakes, hurricanes, tornados and floods. Even more ironic is his inability to prevent or control man-made catastrophes such as fires, explosions, train wrecks, plane crashes, and now nuclear blasts. While nuclear blasts cannot be discounted as a potential source

of future disasters, thousands of lives continue to be lost daily in "garden variety" of disasters, all too well known to anyone who reads, listens or views.

Increasing emphasis has been placed in recent years on the necessity of community planning for potential disasters. The advent of the nuclear age has given considerable impetus to preparing and training for such events not only in the Armed Forces but in civilian communities. Unfortunately, for the most part, preparation has been limited to planning—to drafting a master plan with many ap-

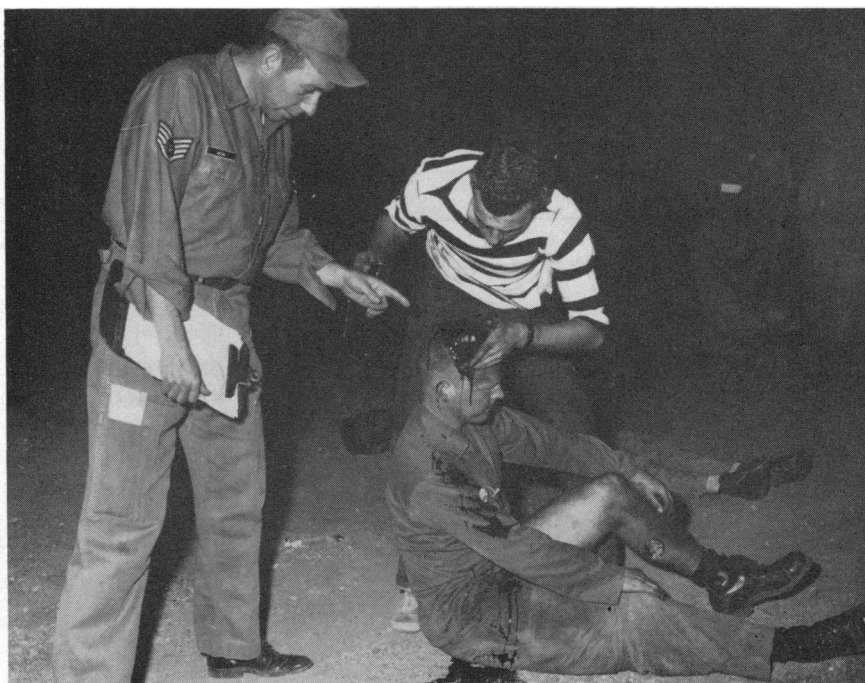
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Terrified mother (in mock scene) holding unconscious son with open fracture of skull, pleads for help. Monitors in background to prevent possible accidents from bystanders entering burning aircraft.

Realistic "casualties" in make-up area, immediately before they were transported to disaster site.



Last-minute "touch-up" by cosmeticians at disaster site to insure realistic simulation of acute trauma.

pendices—which is subsequently filed in some cabinet or safe.

It is the purpose of this paper to point out that while planning and training can more easily be facilitated by lectures, pamphlets and a demonstration of walk-through type, the most effective means of instruction and improvement is the use of surprise, realistic disaster exercises.

Experience at Travis Air Force Base

Our experience with disaster planning and training at the USAF Hospital Travis began in the spring of 1959 when special 40-hour training courses in disaster medical care were initiated for all medical and paramedical personnel.

A formal hospital plan for disaster was conceived, published and tested by two practical test disaster exercises in 1959 and three exercises in 1960. Overall performance on each occasion was fairly satisfactory.

In retrospect, it is highly significant that these exercises had all been held in an orthodox manner: In general, they were conducted during pleasant weather, on a dry, grassy field, or concrete runway, utilizing "tags" which listed nature and extent of injuries on disinterested, quietly lying uncoached "casualties," without harassment of any kind or failure of any hospital utilities.

The disaster problem solely concerned a theoretical situation in which medical personnel were concerned with medical problems alone, without simultaneous test participation of any other disaster agency, ignoring completely the mutual problems which confront firefighters, medical personnel and air police in real disasters.

Operation "Roll Call," held on 27 January 1961, was the first realistic disaster exercise ever conducted at Travis.

This surprise test exercise was held in inclement weather, in the dark, after a week of rain, on a muddy field. The surprise presented a sham "Broken Arrow" aircraft disaster (i.e., nuclear weapon on board aircraft) which required participation of firefighters, air police, disaster control personnel and radiation detection, as well as the medical care and evacuation of casualties. The exercise included selected harassment incidents taken from well-documented past disasters, both military and civilian. A special feature of the test was the participation of one hundred realistically simulated "casualties," who not only looked the part but acted the part of various types of casualties.

A critique held after this exercise completely shattered the existing complacency regarding disaster readiness on the part of medical personnel. The entire plan for coping with disaster at the hospital was rewritten, with innumerable changes in concept

and technique, primarily because of the flaws detected as a result of the realism introduced into the exercise.

At that time, there was little or no attempt on the part of other support agencies to examine into their own flaws and weaknesses which were only too obvious to those who had planned the exercise and participated in it.

Operation "Calamity Jane," held on 19 October 1961, was an even larger scale realistic disaster test exercise, deliberately planned to simultaneously test all agencies involved in disaster control in a military community.

With utmost secrecy, a special disaster exercise preparation team prepared in detail a test exercise which effectively probed the existing Base disaster control plan and hospital disaster plan for flaws and weaknesses that might emerge under less than optimal conditions.

Careful search was made of the records of real-life disasters that had been well-documented in the past, both in military and civilian communities (and there was voluminous material available). Incidents from various disasters were abstracted, modified, and fitted into "Calamity Jane."

The scenario of Operation "Calamity Jane" read as follows: "On 19 October 1961, a few seconds after midnight, a MATS civilian contract carrier with approximately 130 military personnel and dependents aboard, actually departed Travis for Clark Air Base in the Philippines. One minute after take-off, a series of explosions and fires was set off on a cold, dark, dusty knoll located 1.5 miles southeast of the end of the runway. The stage was dramatically set with the flaming hulk of an old C-97 fuselage, and the screams, moans and antics of 132 "casualties" realistically made up with fractures, burns, penetrating wounds of the abdomen and chest, head injuries and lacerations. These "casualties" previously coached very carefully, continued to "act out" their roles throughout the exercise.

A short distance from the flaming hulk lay an overturned gondola on a railroad siding, from which had spilled two mock-up nuclear weapons, and there was fire in the immediate vicinity. Hidden over an area approximately 30 yards in diameter surrounding the gondola were strips of heavy tarpaulin to which there had been fixed metallic radioactive devices that emitted radiation. Many patients were made radiation "casualties" by use of the same devices. Preplanned harassment incidents included a simulated automobile accident at the main entrance of the approach road leading to the disaster site; the arrival of the mayors of two nearby cities with their police chiefs, who frantically demanded information and guidance from the Base officer of the day; simulated panic at the air termi-

nal by a group of carefully coached "relatives" who had been seeing the passengers off; the setting off of a burglar alarm at the finance office; a 30-minute loss of electrical power at the hospital; jamming of the Base switchboard with telephone calls from relatives, newsmen and neighbors; and invasion of the hospital by distraught "relatives" seeking their loved ones.

Six senior line officers and six senior hospital commanders from other Air Force bases, together with three civilian general surgeons, formed a group of umpires carefully stationed at various sites to make pertinent observations. In addition, the WESTAF Commander, the 1501st Wing Commander, and key members of their staffs were official observers.

A wing-base critique, held several days after the exercise, pointed out the following defects and deficiencies observed during the exercise:

- Lack of command post at the disaster site proper, with resulting lack of coordination of essential rescue activities.
- Weak communication facilities at the disaster site, with consequent inability of different support agencies to communicate with each other, or to receive instructions simultaneously from a field commander if one had been present.
- Poor traffic control, with serious hold-up of rescue vehicles, resulting from ineffective handling of an accident situation, poor traffic handling on the approach road, and failure to post guides at the disaster site.
- Failure to supply security for the hospital, with consequent interference in medical care by unauthorized intruders.
- Poor lighting at disaster site, which seriously hampered effective emergency first aid.

It was stressed that the provision of nontechnical labor was a command function, and that mass casualties demanded the maximum conservation of medical effort, interdicting the use of medical personnel for litter-bearing and other labor functions.

Following the critique, appropriate changes in concept and procedure were again introduced into the Base disaster plan, and considerable communication and other specialized disaster equipment was ordered.

Civilian Disaster Experiences

In the March 1962 *Journal of Trauma*, Dr. Gerald W. Shafan published an article entitled "Disaster and Medical Care," relating the experiences of the Kings County Hospital Disaster Planning Committee in three major disasters that took place in New York City from December 1960 through January 1961. These included:

1. Two-plane collision in mid-air, separately crashing in Brooklyn and Staten Island—16 December 1960.

2. Major fire on carrier *Constellation* in Brooklyn Navy Yard trapping 250 men below deck—19 December 1960.

3. Mexican airline plane crashed on take-off at New York International Airport. (Same day as parade for Lieutenant Colonel John Glenn.)

Dr. Shafan commented repeatedly on the totally ineffective control and chaotic disaster scenes which resulted from absence of central disaster authority, lack of traffic control, ineffective communication and lack of organization of medical disaster resources. He concluded that in disaster situations "sensible action must depend on reflexes rather than reasoning." He strongly advocated the utilization of mock exercises and drills as the most effective means of instruction.

Conclusion

The realism introduced in several large-scale surprise mock disasters held in a fairly large military community proved to be a real challenge to a disaster-conscious hospital staff that had previously undergone fairly extensive training and testing, utilizing conventional methods. Serious weaknesses, flaws and oversights in disaster capability were dramatically and conclusively revealed primarily because of the realistically-simulated disaster phenomena (a real disaster problem, in a "live" disaster setting, with realistic mock-up "casualties" that not only looked but acted the part, harassment from utility failures, distraught relatives, telephone overloads, etc.).

The most effective means of disaster training, short of participation in actual real-life disasters, is the use of realistic mock exercises.

An analogy can and should be made between the preparation required for the achievement of a state of disaster readiness, and that required to achieve the proper level of combat capability for actual war. All the lectures, training films, instruction pamphlets, and carefully annotated plans in the world cannot teach a surgeon to perform an operation, a student pilot to fly an aircraft, a football team to play the game, or a community to achieve an effective state of disaster readiness.

As stated by senior officers who umpired the exercises, "One has only to witness the challenge of a realistically-conducted exercise, held under real adverse weather conditions and utilizing realistically-simulated casualties, with simultaneous test-participation of all support agencies to become a missionary to the cause of realistic disaster planning and training."

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